INORGANIC DATA VALIDATION REPORT

To: U.S. Environmental Protection Agency Region 9

Validated by: Diane Quigley, Weston Solutions, Inc.

Report Date: August 11, 2015

Project/Site: Gold King Mine Emergency Response

Laboratory No: 680-115416-1

This memo presents the inorganic data validation report for the data obtained during the field activities for the above referenced work assignment. The purpose of this review is to provide a Stage 2A validation of the following samples collected on August 8, 2015, and analyzed by TestAmerica Laboratories, Inc. located in Savannah, GA:

Field Sample Numbers	Laboratory ID	Analyses/Methods
SJLP-080815-11	680-115416-1	TAL Metals plus Mo by EPA 200.7 and
		200.8
SJFP-080815-11	680-115416-2	Mercury by EPA 245.1
SJHB-080815-11	680-115416-3	Hardness (calculation) by SM2340B TSS by SM2540D
GIGD 000015 11	(00 117416 4	7 7
SJSR-080815-11	680-115416-4	TDS by SM2540C
		Alkalinity by SM2320B
10_25_20150807-RS	680-115416-5	pH by SM4500H+B

Mo = Molybdenum

SM = Standard Methods for the Evaluation of Water & Wastewater

TAL = Target Analyte List

TDS = Total Dissolved Solids

TSS = Total Suspended Solids

Data validation was conducted in accordance with the EPA National Functional Guidelines for Inorganic Superfund Analyses, August 2014 (NFG); Test Methods for Evaluating Solid Wastes, SW-846, 3rd Edition and Updates; and other applicable EPA methods.

1

2413423

Stage 2A validation was performed on the sample results. The data were evaluated based on the following parameters:

- * Data Completeness
 Holding Times, Sample Preservation and Receipt
- * Laboratory Blanks
- NA Field Blanks
 - Matrix Spike/Matrix Spike Duplicates
- * Laboratory Duplicate Samples
- * Laboratory Control Samples (Blank Spikes)
- * Total vs. Dissolved Metals Results Evaluation
- NA Field Duplicates
- * Serial Dilution
- NA Sample Dilutions and Detection Limits
- All criteria were met for this parameter
- NA Not applicable

Data Completeness

The Level 2 data package was complete and included a case narrative, sample results, batch quality control (QC) results, QC association summary, chain-of-custody forms, and a sample receipt condition form. Raw data is not required for a Level 2 data package.

Holding Times, Sample Preservation and Receipt

Surface water samples were analyzed for pH two days after sampling. Results for pH were flagged by the lab with an "HF" which indicates the samples were analyzed out of the 15 minute field holding time. The pH results for water samples were estimated (J) since they were analyzed past the recommended holding time. All other holding times were met.

The samples were received within the recommended ≤6□C NFG QC limit. No shipping or receiving problems were noted.

Laboratory Blanks

The method blanks (MB) were analyzed at the required frequency. No contaminants were found in these blanks.

Field Blanks

No field blanks were submitted with these samples.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed (on sample SJLP-080815-11) for all analyses except alkalinity, TSS, and TDS.

Spike recoveries met the 75-125 percent recovery (%R) metals criteria and the 20% Relative Percent Difference (RPD) criteria from the NFG except for the following:

- Several analyte spike recoveries (Al, Ba, Ca, Fe, Mg, K and Na) for sample SJLP-080815-11 were outside QC limits in the MS and MSD. Since the laboratory qualified these results with a "4" indicating the parent sample concentrations were greater than four times the spiked amount, no qualifications are necessary.
- Antimony (38/38%) and Zinc (-/67%) recoveries were below QC limits for sample SJLP-080815-11 in the MS and MSD. The positive antimony and zinc results were estimated J- in all samples due to potential low bias. Quantitation limits for non-detected results were flagged "UJ" as estimated.

Laboratory Duplicate Samples

Total alkalinity, pH and TSS laboratory duplicate analyses were performed on sample SJFP-080815-11. A laboratory duplicate was not presented for TDS analysis.

Duplicate precision criteria were met for laboratory duplicate sample results greater than five times the reporting limit (RL). RPDs were less than 20% for aqueous samples. For sample results less than five times the RL, the absolute difference between the laboratory duplicate and the original sample was less than the RL.

<u>Laboratory Control Samples (Blank Spikes)</u>

At least one laboratory control sample (LCS) analysis was analyzed per QC batch and, for some analyses, a duplicate LCS (LCSD) was also analyzed. All LCS analyte recoveries were within 70-130%R NFG control limit for metals and mercury and within the 20% RPD NFG control limit for metals and mercury. Recoveries were within the lab control limits for wet chemistry parameters.

Total vs. Dissolved Metals Results Evaluation

Total Metals results were greater than the Dissolved Metals results and/or within the 10%D QC limits for all metals analytes except for the following:

Sample ID	Analyte	Total Conc.	Dissolved Conc.	%D	Qualifier
SJSR-080815-11	Mo	1.2 μg/L	1.6 μg/L	33%	J

Sample results were qualified as indicated above.

Field Duplicates

No field duplicates were submitted with this data set.

Sample Dilution and Detection Limits

The laboratory correctly "J" flagged results less than the reporting limits. The data validator retained the J qualifier unless the analyte was qualified as non-detected for blank contamination.

Raw data were not provided or evaluated for this Level 2 package to verify results and analytical dilution.

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

- J The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
- J- The associated numerical value is estimated with a low bias because the Quality Control criteria were not met.
- UJ The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
- U The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ATTACHMENT RESULTS SUMMARY SHEETS WITH QUALIFIERS

TA115416 inorg

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJLP-080815-11

Date Collected: 08/08/15 15:32 Date Received: 08/10/15 07:45 Lab Sample ID: 680-115416-1

Matrix: Water

Analyte	Result	Qualifier	RL	N	IDL	Unit		D	Prepared	Analyzed	Dil Fac
Aluminum	28000	Commission of the Commission o	200	- Anna Commence of the Commenc	24	ug/L	MATERIAL PROPERTY AND ADDRESS OF THE PARTY AND	- seems	08/10/15 09:56	08/10/15 15:22	1
Calcium	64000		500		25	ug/L			08/10/15 09:56	08/10/15 15:22	1
Iron	29000	7.	50	21.00	17	ug/L	82		08/10/15 09:56	08/10/15 15:22	1
Magnesium	12000		500		33	ug/L			08/10/15 09:56	08/10/15 15:22	1
Potassium	8100		1000		17	ug/L			08/10/15 09:56	08/10/15 15:22	1
Sodium	21000		1000		480	ug/L			08/10/15 09:56	08/10/15 15:22	1

Method: 200.7 Rev 4.4 - Metal		The state of the s	-	MDL			. Adam malin		NII 5
Analyte		Qualifier	RL	in a land and a second a second and a second a second and		U	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 16:52	1
Calcium, Dissolved	47000		500	25	ug/L		08/10/15 09:56	08/10/15 16:52	1
Iron, Dissolved	18	J	50	17	ug/L		08/10/15 09:56	08/10/15 16:52	1
Potassium, Dissolved	2400		1000	17	ug/L		08/10/15 09:56	08/10/15 16:52	1
Magnesium, Dissolved	6100		500	33	ug/L		08/10/15 09:56	08/10/15 16:52	1
Sodium, Dissolved	19000		1000	480	ug/L		08/10/15 09:56	08/10/15 16:52	1

Method: 200.8 - Metals (ICP/M Analyte	S) Result Qualifie	r RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40 UF1 U	1.0	0.40	ug/L	*****	08/10/15 09:56	08/11/15 09:29	***************************************
Arsenic	11	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 09:29	1
Barium	490	2.0	0.14	ug/L		08/10/15 09:56	08/11/15 09:29	1
Beryllium	1.4	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 09:29	1
Cadmium	0.35	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 09:29	1
Chromium	14	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 09:29	- 1
Cobalt	9.9	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 09:29	. 1
Copper	42	1.0	0.50	ug/L		08/10/15 09:56	08/11/15 09:29	1
Lead	150	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 09:29	1
Manganese	570	2.5	1.2	ug/L		08/10/15 09:56	08/11/15 09:29	1
Nickel	13	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:29	. 1
Selenium	0.74 J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 09:29	1
Silver	0.96 J	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 09:29	1
Thallium	0.30	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 09:29	1
Vanadium	34	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 09:29	1
Zinc	130 F1 <i>J</i> -	- 20	2.8	ug/L		08/10/15 09:56	08/11/15 09:29	1
Molybdenum	2.4	1.0	0.45	ug/L		08/10/15 09:56	08/11/15 09:29	. 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	UVJ	1.0	0.40	ug/L	Minimum Server.	08/10/15 09:56	08/11/15 11:11	1
Arsenic, Dissolved	0.37	U	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:11	1
Barium, Dissolved	61		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:11	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:11	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:11	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:11	1
Cobalt, Dissolved	0.12	J	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:11	1
Copper, Dissolved	1.5		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:11	1
Lead, Dissolved	0.094	J	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:11	1
Manganese, Dissolved	5.8		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:11	1
Molybdenum, Dissolved	1.6		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:11	1
Nickel, Dissolved	1.1		1.0	0.40	ug/L	. *	08/10/15 09:56	08/11/15 11:11	1

TestAmerica Savannah

Page 8 of 36

18 ful 8-11-15

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-1

Prepared

Matrix: Water

Dil Fac

Analyzed

08/10/15 16:07

Client Sample ID: SJLP-080815-11

Date Collected: 08/08/15 15:32 Date Received: 08/10/15 07:45

General Chemistry

Analyte

nH

2413423

Method: 200.8 - Metals (ICP/MS) -	Dissolv	red (Continue	∌d)				and the second s		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L	elleteren en e	08/10/15 09:56	08/11/15 11:11	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:11	- 1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L	-4	08/10/15 09:56	08/11/15 11:11	1
Vanadium, Dissolved	0.35	J	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:11	1
Zinc, Dissolved	2.8	0 03	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:11	1
Method: 2340B-2011 - Total Hardn	iess (as	CaCO3) by	calculation						
Analyte	and the second second	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	210		3.3	3.3	mg/L	manifestation and		08/10/15 15:22	
Method: 245.1 - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	Ü	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:21	-
Method: 245.1 - Mercury (CVAA) -	Dissolv	ved			dj.				
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	II	0.20	0.080	ug/L	manifestation and	08/10/15 12:21	08/10/15 16:28	-

Pri i	0.03	·" J			W. W.			00/10/10 10:01	**
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	86	- phenological delimitation of the communication of	5.0	5.0	mg/L	-		08/10/15 16:07	1
Total Suspended Solids	1300		20	20	mg/L			08/10/15 09:56	1
Total Dissolved Solids	250		10	10	mg/L			08/10/15 11:46	1
Selection (
	Ne Ne								

Page 9 of 36

NONE

NONE Unit

Result Qualifier

805 HE

JB 41 19

TestAmerica Savannah

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-2

ib Sample ib. 0007113410-2

Matrix: Water

Client	Samp	le ID: :	SJFP-	08081	5-11

Date Collected: 08/08/15 18:40 Date Received: 08/10/15 07:45

Nethod: 200.7 Rev 4.4 - Metals (ICP)									
		Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil F
Numinum	22000		200	24	ug/L	impolarimonementeric.	ways.	08/10/15 09:56	08/10/15 15:33	-
Calcium	60000		500	25	ug/L			08/10/15 09:56	08/10/15 15:33	
'on	25000		50	17	ug/L			08/10/15 09:56	08/10/15 15:33	
lagnesium	10000		500	33	ug/L			08/10/15 09:56	08/10/15 15:33	
otassium	7000		1000	17	ug/L			08/10/15 09:56	08/10/15 15:33	
Sodium	22000		1000	480	ug/L			08/10/15 09:56	08/10/15 15:33	
Method: 200.7 Rev 4.4 - Metals (ICP) - Dis	solved	# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Analyte	Result	Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil F
luminum, Dissolved	24	Ū	200	24	ug/L	mananti-mirrimonis.	integra	08/10/15 09:56	08/10/15 16:55	
Calcium, Dissolved	50000		500	25	ug/L			08/10/15 09:56	08/10/15 16:55	
ron, Dissolved	17	U	50	17	ug/L			08/10/15 09:56	08/10/15 16:55	
Potassium, Dissolved	2400		1000	17				08/10/15 09:56	08/10/15 16:55	
Magnesium, Dissolved	6400		500	33				08/10/15 09:56	08/10/15 16:55	
odium, Dissolved	20000		1000		ug/L				08/10/15 16:55	
Method: 200.8 - Metals (ICP/MS)										
	Result	Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil F
ntimony	0.59	J	1.0	0.40	ug/L	santemate division for the	Similar.	08/10/15 09:56	08/11/15 09:50	- Companyations
rsenic	11		1.0	0.37	ug/L			08/10/15 09:56	08/11/15 09:50	- L
arium	260		2.0	0.14	ug/L			08/10/15 09:56	08/11/15 09:50	
eryllium	0.97		0.40	0.15	ug/L			08/10/15 09:56	08/11/15 09:50	
admium	0.39		0.10	0.043	ug/L		Sign	08/10/15 09:56	08/11/15 09:50	
hromium	9.9		2.0	1.0	ug/L			08/10/15 09:56	08/11/15 09:50	
Cobalt	6.1		0.40	0.12	ug/L			08/10/15 09:56	08/11/15 09:50	
Opper	46		1.0	0.50	ug/L			08/10/15 09:56	08/11/15 09:50	
ead	200		0.30	0.060	ug/L			08/10/15 09:56	08/11/15 09:50	1
langanese	380		2.5	1.2	ug/L			08/10/15 09:56	08/11/15 09:50	
ickel	8.9		1.0	0.40	ug/L			08/10/15 09:56	08/11/15 09:50	
elenium	0.98	J	2.0	0.58	ug/L			08/10/15 09:56	08/11/15 09:50	~.
ilver	1.4		1.0	0.10	ug/L				08/11/15 09:50	
hallium	0.23		0.20	0.10					08/11/15 09:50	384 15
anadium	27		1.0		ug/L				08/11/15 09:50	
inc	130		20	2.8	ug/L				08/11/15 09:50	
lolybdenum	3.2		1.0	0.45	ug/L				08/11/15 09:50	
lethod: 200.8 - Metals (ICP/MS) - D	issolv	ed								
	Result	Qualifier	RL	MDL			D	Prepared	Analyzed	Dil F
ntimony, Dissolved	0.40	UVJ	1.0	0.40	ug/L	**************************************	- comboni-	08/10/15 09:56	08/11/15 11:15	Personalista
rsenic, Dissolved	0.37	U	1.0		ug/L			08/10/15 09:56	08/11/15 11:15	
arium, Dissolved	66		2.0		ug/L			08/10/15 09:56	08/11/15 11:15	38 S.
eryllium, Dissolved	0.15	U	0.40	0.15	ug/L			08/10/15 09:56	08/11/15 11:15	
admium, Dissolved	0.043	U	0.10	0.043				08/10/15 09:56	08/11/15 11:15	
hromium, Dissolved	1.0	U	2.0		ug/L			08/10/15 09:56	08/11/15 11:15	
obalt, Dissolved	0.13		0.40	0.12					08/11/15 11:15	
opper, Dissolved	1.5	and a	1.0		ug/L	17			08/11/15 11:15	
ead, Dissolved	0.060	U	0.30	0.060					08/11/15 11:15	
A CARLO DE LA CARLO DE CARLO D			and a see and		100					

TestAmerica Savannah

08/10/15 09:56 08/11/15 11:15 08/10/15 09:56 08/11/15 11:15

8/11/2015

Page 10 of 36

1.0

0.45 ug/L

0.40 ug/L

1.7

1.2

Molybdenum, Dissolved

Nickel, Dissolved

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-2

Matrix: Water

Client Sample	le ID: S	SJFP-080	315-11

Date Collected: 08/08/15 18:40 Date Received: 08/10/15 07:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	Ü	2.0	0.58	ug/L	punioniyaan , gagay	08/10/15 09:56	08/11/15 11:15	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:15	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:15	1
Vanadium, Dissolved	0.30	U	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:15	1
Zinc, Dissolved	2.8	UUJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:15	1

Spiropopopopo	Method: 2340B-2011 - Total H	ardness (as	CaCO3) b	y calculati	on						
conintest	Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	
despound	Total Hardness	190		3.3	3.3	mg/L	- specialists	· ///	08/10/15 15:33	1	

Method: 245.1 - Mercury (CVA	A)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L	needs	08/10/15 09:17	08/10/15 15:30	1

harawaan	Method: 245.1 - Mercury (CVA	A) - Dissolv	red								
donatriad	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Heisensen	Mercury, Dissolved	0.080	U	0.20	0.080	ug/L	100,000	08/10/15 12:21	08/10/15 16:31	1	

Science Co.	General Chemistry	A second									
	Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac	
-	pH	8.06	HF J	www.combolines.gov.compoundationide	militaria manggana anggania managitis	SU	enegoniesesenie, voerzie,	elemente de la companya de la compa	08/10/15 16:14	1	
	Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	
(A)	Alkalinity	84	- And an extended an investment country	5.0	5,0	mg/L	decimalistic remain	an kilologia di nilatara solita siloto e il toto e il egippo a il egippo di milioni di mi	08/10/15 16:14	1	
this paper play	Total Suspended Solids	680		20	20	mg/L			08/11/15 08:37	1	
Systemical	Total Dissolved Solids	290		10	10	mg/L			08/10/15 11:46	1	

x 10 09 15

TestAmerica Savannah

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJHB-080815-11 Lab Sample ID: 680-115416-3

Date Collected: 08/08/15 19:10 Matrix: Water Date Received: 08/10/15 07:45

 Method: 200.7 Rev 4.4 - Metals (ICP)

 Analyte
 Result Qualifier
 RL
 MDL Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Aluminum
 30000
 200
 24 ug/L
 08/10/15 09:56
 08/10/15 15:37
 1

Aluminum Calcium 77000 500 25 ug/L 08/10/15 09:56 08/10/15 15:37 Iron 36000 50 17 ug/L 08/10/15 09:56 08/10/15 15:37 500 08/10/15 09:56 08/10/15 15:37 13000 33 ug/L Magnesium 1000 08/10/15 09:56 08/10/15 15:37 **Potassium** 8700 17 ug/L 480 ug/L Sodium 23000 1000 08/10/15 09:56 08/10/15 15:37

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved Dil Fac Result Qualifier RL MDL Unit Prepared Analyzed 24 U Aluminum, Dissolved 200 24 ug/L 08/10/15 09:56 08/10/15 16:59 Calcium, Dissolved 54000 500 25 ug/L 08/10/15 09:56 08/10/15 16:59 50 ug/L Iron. Dissolved 17 U 08/10/15 09:56 08/10/15 16:59 17 ug/L 1000 08/10/15 09:56 08/10/15 16:59 Potassium, Dissolved 2500 17 Magnesium, Dissolved 6900 500 33 ug/L 08/10/15 09:56 08/10/15 16:59 Sodium, Dissolved 22000 1000 480 ug/L 08/10/15 09:56 08/10/15 16:59

Method: 200.8 - Metals (ICP/MS) Result Qualifier RL MOL **Dil Fac** Analyte Unit Prepared Analyzed Antimony 0.51 J 1.0 0.40 ug/L 08/10/15 09:56 08/11/15 09:54 Arsenic 14 1.0 0.37 ug/L 08/10/15 09:56 08/11/15 09:54 1 Barium 570 2.0 0.14 ua/L 08/10/15 09:56 08/11/15 09:54 1 0.15 Beryllium 1.8 0.40 ug/L 08/10/15 09:56 08/11/15 09:54 Cadmium 0.51 0.10 0.043 ug/L 08/10/15 09:56 08/11/15 09:54 2.0 08/11/15 09:54 Chromium 16 1.0 ug/L 08/10/15 09:56 Cobalt 13 0.40 08/10/15 09:56 08/11/15 09:54 0.12 ug/L 61 08/10/15 09:56 08/11/15 09:54 Copper 1.0 0.50 ug/L Lead 250 0.30 0.060 ug/L 08/10/15 09:56 08/11/15 09:54 1 Manganese 940 2.5 1.2 ug/L 08/10/15 09:56 08/11/15 09:54 1 Nickel 16 1.0 0.40 ug/L 08/10/15 09:56 08/11/15 09:54 2.0 08/10/15 09:56 08/11/15 09:54 Selenium 1.5 J 0.58 ua/L 1 08/11/15 09:54 Silver 1.0 08/10/15 09:56 1.6 0.10 ug/L 1 Thallium 0.35 0.20 0.10 ug/L 08/10/15 09:56 08/11/15 09:54 1 1.0 08/10/15 09:56 08/11/15 09:54 Vanadium 41 0.30 ug/L Zinc 170 20 2.8 ug/L 08/10/15 09:56 08/11/15 09:54 1 1.0 0.45 ug/L 08/10/15 09:56 08/11/15 09:54 Molybdenum 3.0 1

Method: 200.8 - Metals (ICP/MS) - Dissolved Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Antimony, Dissolved 0.40 Ü 1.0 0.40 ug/L 08/10/15 09:56 08/11/15 11:20 Arsenic, Dissolved 0.37 U 1.0 0.37 ug/L 08/10/15 09:56 08/11/15 11:20 Barium, Dissolved 67 2.0 0.14 ug/L 08/10/15 09:56 08/11/15 11:20 Beryllium, Dissolved 0.15 U 0.40 0.15 ug/L 08/10/15 09:56 08/11/15 11:20 Cadmium, Dissolved 0.043 U 0.10 0.043 ug/L 08/10/15 09:56 08/11/15 11:20 Chromium, Dissolved 1.0 U 2.0 1.0 ug/L 08/10/15 09:56 08/11/15 11:20 Cobalt, Dissolved 0.12 U 0.40 0.12 ug/L 08/10/15 09:56 08/11/15 11:20 Copper, Dissolved 1.0 0.50 08/10/15 09:56 08/11/15 11:20 1.7 ug/L 0.060 U 0.30 Lead, Dissolved 0.060 ug/L 08/10/15 09:56 08/11/15 11:20 2.5 08/10/15 09:56 08/11/15 11:20 Manganese, Dissolved 1.2 J 1.2 ug/L 1.0 08/10/15 09:56 08/11/15 11:20 Molybdenum, Dissolved 1.8 0.45 ug/L Nickel, Dissolved 1.0 08/10/15 09:56 08/11/15 11:20 1.1 0.40 ug/L

TestAmerica Savannah

Page 12 of 36

OR 11-15 8/11/2015

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-3

Matrix: Water

Client Sample ID: SJHB-080815-11

Date Collected: 08/08/15 19:10 Date Received: 08/10/15 07:45

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued) **MDL** Unit **Dil Fac** Analyte Result Qualifier RL Prepared Analyzed 0.58 U 20 0.58 ug/L 08/10/15 09:56 08/11/15 11:20 Selenium, Dissolved 08/10/15 09:56 08/11/15 11:20 0.10 U Silver, Dissolved 1.0 0.10 ug/L Thallium, Dissolved 0.10 U 0.20 0.10 ug/L 08/10/15 09:56 08/11/15 11:20 08/10/15 09:56 08/11/15 11:20 1.0 0.30 ug/L Vanadium, Dissolved 0.34 J 08/10/15 09:56 08/11/15 11:20 Zinc, Dissolved 28 U U) 20 2.8 ug/L

 Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

 Analyte
 Result
 Qualifier
 RL
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Total Hardness
 250
 3.3
 3.3
 mg/L
 08/10/15 15:37
 1

 Method: 245.1 - Mercury (CVAA)

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Mercury
 0.080
 U
 0.20
 0.080
 ug/L
 08/10/15 09:17
 08/10/15 15:33
 1

 Method: 245.1 - Mercury (CVAA) - Dissolved

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Mercury, Dissolved
 0.080
 U
 0.20
 0.080
 ug/L
 08/10/15 12:21
 08/10/15 16:35
 1

General Chemistry Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
BH.	7.99	MF J	ilitaryis ingalikanyi alikiyani	**************************************	SU		***************************************	08/10/15 16:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	82		5.0	5.0	mg/L	ementation () spend () (08/10/15 16:32	1
Total Suspended Solids	2900		33	33	mg/L			08/11/15 08:37	1
Total Dissolved Solids	290		10	10	mg/L			08/10/15 11:46	1

* PQ 1-15

TestAmerica Savannah

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-4

Matrix: Water

Client Sample ID: SJSR-080815-11

Date Collected: 08/08/15 19:34 Date Received: 08/10/15 07:45

Analyte	Result Qualifier	RL	MDL	Unit		D Prepared	Analyzed	Dil Fac
Aluminum	42000	200	24	ug/L	ecope single characteristics.	08/10/15 09 56	08/10/15 15:41	-1
Calcium	74000	500	25	ug/L		08/10/15 09:56	3 08/10/15 15:41	1
Iron	36000	50	17	ug/L		08/10/15 09:50	8 08/10/15 15:41	1
Magnesium	16000	500	33	ug/L		08/10/15 09:56	08/10/15 15:41	1
Potassium	9500	1000	17	ug/L		08/10/15 09:56	6 08/10/15 15:41	1
Sodium	28000	1000	480	ug/L		08/10/15 09:56	08/10/15 15:41	1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	610	200	24	ug/L	recommunacy (relate)	08/10/15 09:56	08/10/15 17:03	1
Calcium, Dissolved	50000	500	25	ug/L		08/10/15 09:56	08/10/15 17:03	1
Iron, Dissolved	360	50	17	ug/L		08/10/15 09:56	08/10/15 17:03	1
Potassium, Dissolved	2600	1000	17	ug/L		08/10/15 09:56	08/10/15 17:03	1
Magnesium, Dissolved	6400	500	33	ug/L		08/10/15 09:56	08/10/15 17:03	1
Sodium, Dissolved	25000	1000	480	ug/L		08/10/15 09:56	08/10/15 17:03	1

Susse									
Method: 200.8 - Met		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	ט ט ד	1.0	0.40	ug/L	epinonement epine	08/10/15 09:56	08/11/15 10:07	
Arsenic	7.2		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 10:07	1
Barium	640		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 10:07	1
Beryllium	2.3		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 10:07	1
Cadmium	0.19		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 10:07	1
Chromium	22		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 10:07	1
Cobalt	17		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 10:07	1
Copper	36		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 10:07	1
Lead	32		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 10:07	1
Manganese	810		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 10:07	1
Nickel	22		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 10:07	1
Selenium	1.3	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 10:07	1
Silver	0.12	J	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 10:07	1
Thallium	0.43		0.20	0.10	ug/L	8.7	08/10/15 09:56	08/11/15 10:07	1.
Vanadium	50		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 10:07	. 1
Zinc	100		20	2.8	ug/L		08/10/15 09:56	08/11/15 10:07	
Molybdenum	1.2	J	1.0	0.45	ug/L		08/10/15 09:56	08/11/15 10:07	1

Analyte	Result (Qualifier	RL	MDL Unit	D Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40 (UJ	1.0	0.40 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Arsenic, Dissolved	0.84	J	1.0	0.37 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Barium, Dissolved	68		2.0	0.14 ug/L	08/10/15 09:56)8/11/15 11:24	1
Beryllium, Dissolved	0.15 (J.	0.40	0.15 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Cadmium, Dissolved	0.043 (U	0.10	0.043 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Chromium, Dissolved	1.0 \	J	2.0	1.0 ug/L	08/10/15 09:56)8/11/15 11:24	1
Cobalt, Dissolved	0.29 .	J	0.40	0.12 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Copper, Dissolved	2.1		1.0	0.50 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Lead, Dissolved	0.51		0.30	. 0.060 ug/L	08/10/15 09:56)8/11/15 11:24	1
Manganese, Dissolved	13		2.5	1.2 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Molybdenum, Dissolved	1.6		1.0	0.45 ug/L	08/10/15 09:56 ()8/11/15 11:24	1
Nickel, Dissolved	1.4	ower.	1.0	0.40 ug/L	08/10/15 09:56)8/11/15 11:24	1

TestAmerica Savannah

Page 14 of 36

< 8/11/2015

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJSR-080815-11

2600

290

Date Collected: 08/08/15 19:34 Date Received: 08/10/15 07:45

Total Suspended Solids

Total Dissolved Solids

Lab Sample ID: 680-115416-4

08/11/15 08:37

08/10/15 11:46

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	Ü	2.0	0.58	ug/L	namento de la composição de la composiçã	08/10/15 09:56	08/11/15 11:24	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:24	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:24	.1
Vanadium, Dissolved	2.0		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:24	1
Zinc, Dissolved	5.1	J ブー	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:24	1
Method: 2340B-2011 - Total Ha	irdness (as	CaCO3) by	calculation	1					
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	250	: Silver and a state of the sta	3.3	3.3	mg/L	encommunicates . Assess	* en	08/10/15 15:41	1
Method: 245.1 - Mercury (CVA	A)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	eveningsmissionisticamissiones som	0.20	0.080	ug/L	innersiminist mutus	08/10/15 09:17	08/10/15 15:36	- Appalacemental and a second
Method: 245.1 - Mercury (CVA	A) - Dissolv	red							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L	deligramonismo messa.	08/10/15 12:21	08/10/15 16:38	1
enter de la Maria. Participat de la companya de la Santa de la Carta			A						
General Chemistry		The second second					Annual Carlos Area	s	and the second of the
Analyte	Result	Qualifier	NONE	NONE	The section of the se	D	Prepared	Analyzed	Dil Fac
PH	8.10	HF 3			SU			08/10/15 16:38	1
Analyte	Pocult	Qualifier	RL	RL.	Unit	D	Prepared	Analyzed	Dil Fac
Milalyte	ittouit	MCMCHINITY.	F N.See	1 V.Sec.	CALLEY.	-	1 topulou	rimiyaaa	W 11 1 54 5

33

10

33 mg/L

10 mg/L

TOR IS

TestAmerica Savannah

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Lab Sample ID: 680-115416-5

Matrix: Water

Client Sample ID: 10-25_20150807_RS

Date Collected: 08/07/15 11:30 Date Received: 08/10/15 07:45

Method: 200.7 Rev 4.4		Augusties	RL	MDL	f lands	n	Prepared	Analyzani	Dil Fac
Analyte		Qualifier	· · · · · · · · · · · · · · · · · · ·		ug/L		Notes and the second se	Analyzed 08/10/15 15:45	Dirac
Aluminum	21000		200		-		08/10/15 09:56		
Calcium	68000		500		ug/L		08/10/15 09:56	08/10/15 15:45	
Iron	16000		50	- 1871 mg -	ug/L		08/10/15 09:56	08/10/15 15:45	
Magnesium	12000		500	1,500,000	ug/L		08/10/15 09:56		
Potassium	6600		1000		ug/L			08/10/15 15:45	- 9
Sodium	25000		1000	480	ug/L		08/10/15 09:56	08/10/15 15:45	
Method: 200.7 Rev 4.4	- Metals (ICP) - Dis	solved						The second second	
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 17:07	
Calcium, Dissolved	56000		500	25	ug/L		08/10/15 09:56	08/10/15 17:07	1.4
Iron, Dissolved	17	U	50	17	ug/L		08/10/15 09:56	08/10/15 17:07	
Potassium, Dissolved	2500		1000	17	ug/L		08/10/15 09:56	08/10/15 17:07	29
Magnesium, Dissolved	7300		500	33	ug/L		08/10/15 09:56	08/10/15 17:07	
Sodium, Dissolved	23000	*	1000	480	ug/L		08/10/15 09:56	08/10/15 17:07	
Method: 200.8 - Metals	(ICP/MS)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	UUJ	1.0	0.40	ug/L	entresentarionistation and	08/10/15 09:56	08/11/15 10:11	gialinagenableinigeangu
Arsenic	3.7	1 12	1.0	0.37	ug/L	4	08/10/15 09:56	08/11/15 10:11	Territoria de la compa
Barium	330		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 10:11	
Beryllium	0.93		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 10:11	
Cadmium	0.20		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 10:11	. Table
Chromium	11		2.0	1.0	ug/L	A	08/10/15 09:56	08/11/15 10:11	
Cobalt	7.4		0.40	0.12	4.00		08/10/15 09:56	08/11/15 10:11	
Copper	17		1.0	0.50				08/11/15 10:11	
Lead	15		0.30	0.060		S. 1	08/10/15 09:56	08/11/15 10:11	N. 18
 Manganese	390		2.5		ug/L			08/11/15 10:11	
Nickel	10		1.0		ug/L			08/11/15 10:11	A 19
Selenium	0.74	.1	2.0		ug/L			08/11/15 10:11	
Silver	0.10	447	1.0	0.10				08/11/15 10:11	1.5
Thallium	0.18		0.20	0.10	7 - 144 - 17		08/10/15 09:56		
Vanadium	25		1.0	0.30				08/11/15 10:11	
vanadidiii Zinc	25 57	J_	20					08/11/15 10:11	
Molybdenum	1.5	44.4	1.0					08/11/15 10:11	
and the effective services of the services of	and the second second second second		: 1.V	0.40	ug/L		00/10/15 05.50	00/11/10 10:11	
Method: 200.8 - Metals Analyte		ed Qualifier	RL.	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40		1.0		ug/L	incommunication in the same	destinated and advantage of the second and the second	08/11/15 11:28	
Arsenic, Dissolved	0.56	266 Alle	1.0		ug/L	· ·		08/11/15 11:28	
Barium, Dissolved	68	**	2.0	0.14				08/11/15 11:28	1
Beryllium, Dissolved	0.15	11	0.40	0.15				08/11/15 11:28	
Cadmium, Dissolved	0.043		0.10	0.043				08/11/15 11:28	
Chromium, Dissolved	1.0		2.0		ug/L			08/11/15 11:28	
The control of the co					100				
Cobalt, Dissolved	0.96		0.40	0.12		748		08/11/15 11:28	
Copper, Dissolved	1.2		1.0		ug/L			08/11/15 11:28	
Lead, Dissolved	0.093	J	0.30	0.060				08/11/15 11:28	Salary Salary
Manganese, Dissolved	3.3		2.5		ug/L			08/11/15 11:28	
Molybdenum, Dissolved	1.5		1.0		ug/L			08/11/15 11:28	
Nickel, Dissolved	1.0		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:28	

TestAmerica Savannah

1 y) W 1 58/11/201

Page 16 of 36

Client: Weston Solutions, Inc.

Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: 10-25_20150807_RS

Date Collected: 08/07/15 11:30 Date Received: 08/10/15 07:45

Analyte

Analyte

Alkalinity

Total Suspended Solids

Total Dissolved Solids

рН

Lab Sample ID: 680-115416-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	Ū	2.0	0.58	ug/L	eshioyoo-boloks akassa	08/10/15 09:56	08/11/15 11:28	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:28	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:28	1
Vanadium, Dissolved	1.3		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:28	1
Zinc, Dissolved	2.8	U UJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:28	
Method: 2340B-2011 - Tota	l Hardness (as	CaCO3) by	calculation	ř			#. *		
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	220	insurfaceintinintentingupuntatuutaus. "-see	3.3	3.3	mg/L	matatoriumme (moser).		08/10/15 15:45	***************************************
Method: 245.1 - Mercury (C	VAA)			42					
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U.	0.20	0.080	ug/L	- Seminary Commercial	08/10/15 09:17	08/10/15 15:39	
Method: 245.1 - Mercury (C	VAA) - Dissolv	red						(. <u> </u>	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	Ü.	0.20	0.080	ug/L	mentantation in Section	08/10/15 12:21	08/10/15 16:41	***************************************
en in the first of the second					, No. of the Control				
General Chemistry									

NONE

RL

5.0

33

10

NONE Unit

SU

RL Unit

5.0 mg/L

33 mg/L

10 mg/L

Result Qualifier

8.18 HF J

Result Qualifier

110

1700

290

19h 1001-15

Prepared

Prepared

Analyzed

08/10/15 16:47

Analyzed

08/10/15 16:47

08/11/15 08:37

08/10/15 11:46

Dil Fac

Dil Fac

TestAmerica Savannah